a projection-pattern element positioned between the first light source and the projection imaging element along the projection optical axis, the projection-pattern element having a repeating sine-wave light-modulation pattern as measured along a line on the projection-pattern element; and

an imager, the imager having a reception optical axis that intersects the device substantially at the projection optical axis.

291. [New] The machine-vision head according to claim 290, wherein the projection-pattern element light-modulation pattern includes a repeating pattern of grid lines having substantially constant density along lines in a direction parallel to the grid lines and a sine-wave density along lines in a direction perpendicular to the grid lines.

292. [New] The machine-vision head according to claim 291, wherein the first light source includes a elongated incandescent filament having a dimension along a longitudinal axis substantially longer than a width, wherein the longitudinal axis of the filament is substantially perpendicular to the projection optical axis and substantially parallel to the grid lines of the projection-pattern element.

293. [New] The machine-vision head according to claim 292, further comprising a projection mask having an elongated aperture having a dimension along a length axis substantially longer than a dimension along a width axis perpendicular to the length axis, and wherein the length axis is substantially parallel to the grid lines of the projection-pattern element.

294. [New] The machine-vision head according to claim 293, wherein the projection mask limits the projected light to less than about three sine-wave cycles of the sine-wave pattern.

295. [New] The machine-vision head according to claim 293, further comprising a projection-mask actuator operable to adjust a position of the projection mask.

296. [New] The machine-vision head according to claim 290, further comprising a light-intensity controller, coupled to receive intensity information regarding light output from the first light source, that outputs a control signal based on a measured intensity of light from the first light source.

297. [New] The machine-vision head according to claim 296, wherein the control signal is operatively coupled to the first light source to control light output based on the measured light intensity in a feedback manner.

298. [New] The machine-vision head according to claim 296, wherein the control signal is operatively coupled to the imager to control an amount of light received in an imaging cycle of the imager.

299. [New] The machine-vision head according to claim 290, further comprising a condensing imaging element positioned between the first light source and the projection-pattern element along the projection optical axis.

300. [New] The machine-vision head according to claim 290, further comprising a focussing reflector that substantially focusses an image of the first light source adjacent to the first light source.

301. [New] The machine-vision head according to claim 300, wherein the reception optical axis is oriented to be at substantially a right angle to a direction of scanning, and the projection optical axis is oriented to be at substantially a forty-five-degree angle to the direction of scanning.

302. [New] The machine-vision head according to claim 301, wherein a major plane of the projection-imaging element is oriented substantially perpendicular to the projection optical axis and a major plane of the projection-pattern element is oriented substantially perpendicular to the projection optical axis.

303. [New] The machine-vision head according to claim 290, further comprising a second light so3urce that directs substantially unpatterned light onto the device, the second light source being activated to obtain two-dimensional intensity data about the device from the imager.

304. [New] A machine-vision system for inspecting a device, comprising:

(1) an inspection station, the inspection station including:

(a) a projector, the projector including:

a first light source having a projection optical axis that intersects the device;

a projection-imaging element positioned along the projection optical axis and spaced from the first light source; and

a projection-pattern element positioned between the first light source and the projection imaging element along the projection optical axis, the projection-pattern element having a repeating sine-wave light-modulation pattern as measured along a line on the projection-pattern element; and

(b) an imager, the imager having a reception optical axis that intersects the device when the inspection station is in operation, the imager maintained in a substantially fixed relationship to the pattern projector, the imager including at least three lines of semiconductor imaging pixels;

(2) a scanner mechanism that moves the imager relative to the device such that different portions of the device are successively imaged by the imager, wherein the first light source is activated in conjunction with the imager to obtain three-dimensional device geometry data regarding the device; and

(3) a comparator coupled to the imager, the comparator comparing one or more characteristics of the acquired three-dimensional device geometry data with an intended predetermined geometry to produce a signal indicative of any device geometry departure of an actual device geometry from the intended predetermined geometry.

305. [New] The system according to claim 304, wherein the projection-pattern element light-modulation pattern includes a repeating pattern of grid lines having substantially constant density along lines in a direction parallel to the grid lines and a sine-wave density along lines in a direction perpendicular to the grid lines.

306. [New] The system according to claim 305, wherein the first light source includes a elongated incandescent filament having a dimension along a longitudinal axis substantially longer than a width, wherein the longitudinal axis of the filament is substantially perpendicular to the projection optical axis and substantially parallel to the grid lines of the projection-pattern element.

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307. [New] The system according to claim 304, further comprising a projection mask having an elongated aperture having a dimension along a length axis substantially longer than a dimension along a width axis perpendicular to the length axis, and wherein the length axis is substantially parallel to the grid lines of the projection-pattern element.

308. [New] The system according to claim 307, wherein the projection mask limits the projected light to less than about three sine-wave cycles of the sine-wave pattern.

309. [New] The system according to claim 304, further comprising a light-intensity controller, coupled to receive intensity information regarding light output from the light source, that outputs a control signal based on a measured intensity of light from the light source, wherein the control signal is operatively coupled to the imager to control an amount of light received in an imaging cycle of the imager.

310 . [New] The system according to claim 304, further comprising a focussing reflector that substantially focusses an image of the light source adjacent to the light source.

311. [New] The system according to claim 304, further comprising a condensing imaging element positioned between the first light source and the projection-pattern element along the projection optical axis.

312. [New] The system according to claim 304, wherein a major plane of the projection-imaging element is oriented substantially perpendicular to the projection optical axis and a major plane of the projection-pattern element is oriented substantially perpendicular to the projection optical axis.

313. [New] The system according to claim 304, further comprising a second light source that directs substantially unpatterned light onto the device, the second light source being activated in conjunction with the imager to obtain two-dimensional intensity data about the device from the imager.

314. [New] A method for measuring a three-dimensional geometry of a device having a surface to be measured, comprising:

projecting patterned light having a spatial-modulation pattern; the projecting pattern light including:

projecting substantially unpatterned light;

spatially modulating the unpatterened light with a sine-wave spatial modulation pattern to produce spatial-modulation patterned light; and

imaging the spatial-modulation patterned light onto the device;

scanning the device within the spatial-modulation patterned light; and

receiving reflected light from the device into at least three linear imager regions.

315. [New] The method according to claim 314, wherein the spatially modulating includes modulating with a repeating pattern of grid lines having substantially constant density along lines in a direction parallel to the grid lines and a sine-wave density along lines in a direction perpendicular to the grid lines.

316. [New] The method according to claim 315, wherein the projecting substantially unpatterned light source includes a elongated light beam, wherein a longitudinal axis of the beam is perpendicular to the direction of projection and parallel to the grid lines.

317. [New] The method according to claim 315, further comprising projection masking to an elongated aperture having a length axis substantially greater that a width axis, and wherein the length axis is substantially parallel to the grid lines of the pattern.

318. [New] The method according to claim 317, wherein the projection masking limits the projected light to less than about three sine-wave cycles of the sine-wave pattern.

319. [New] The method according to claim 317, further comprising a adjusting a position of the projection masking.

320. [New] The method according to claim 314, further comprising generating a light-intensity control signal based on intensity information regarding the projected light.

321. [New] The method according to claim 321, further comprising controlling a light source to control light output based on the measured light intensity in a feedback manner.

322. [New] The method according to claim 320, further comprising controlling an imager to control an amount of light received in an imaging cycle of the imager.

323. [New] The method according to claim 314, further comprising condensing light onto the projection-pattern along the projection optical axis.

324. [New] The method according to claim 314, further comprising reflectively focussing to substantially focus an image of the light source adjacent to the light source.

325. [New] The method according to claim 314, wherein the reception optical axis is oriented to be at substantially a right angle to a direction of scanning, and the projection optical axis is oriented to be at substantially a forty-five-degree angle to the direction of scanning.

326. [New] A computer-readable medium having computer-executable instructions thereon to cause a suitably configured information-handling system to perform the method according to claim 314.